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28 February 1955

MEMORANDUM FOR: THE RECORD

SUBJECT: Project Monitor, P-101B, Communication System, Infrared

1. Time and Place of Meeting: The meetings were held 15, 16, 17 February at the [redacted] 25X1

2. Attendance: [redacted] 25X1

3. Purpose of Meeting: To review the past month's work on the project, to make suggestions regarding the first equipment, to plan the extension of Phase II and to outline the work to be done under Phase III in some detail prior to writing of a proposal on Phase III.

4. Discussion:

a. Work Accomplished During Past Month

The first unit has been completed with the exception of the viewer. A demonstration on the vacuum range indicated that the new unit is noticeably better than the breadboards used successfully at 4-3/4 miles.

The first unit as it now stands is in need of many modifications. As many of these as possible were pointed out during our discussions and will be noted below.

At present the equipments' overall characteristics stand as follows:

Size	6" x 12" x 15"
Weight	24 pounds
Range	6 ACW miles (or better)

b. Suggested Equipment Modifications

A list of about 24 improvements to be made in the first unit was given Raytheon.

(1) Re-examine the optimum PbS cell bias current for best signal to noise ratio.

(2) Determine

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(2) Determine whether noise level in receiver amplifier can be reduced by sharper low frequency cutoff without affecting intelligibility.

(3) Strengthen the stainless steel lugs attaching the tripod leg chains to tripod legs.

(4) Improve the latching mechanism on the center of each tripod leg.

(5) Try to simplify the attachment of the tripod legs to the tripod table by using a push-to-release socket arrangement instead of the present taper pin fastening.

(6) Strengthen tripod table (rear cover of unit) by using heavier aluminum, extruded ribs in cover, and higher sides on cover.

(7) Improve watertight seal over the scan mechanism in the rear cover.

(8) Reduce the size of the projection caused by the scan mechanism lock nut on the rear cover by using a folding wing nut.

(9) Rivet scan mechanism to cover.

(10) Strengthen scan mechanism yoke by increasing thickness of all main parts to 3/16".

(11) Simplify teflon wheel assemblies on yoke by making them fixed instead of retractable.

(12) Lengthen the studs for attaching the scan yoke to the main unit.

(13) Improve the scan mechanism so that it is impossible for the unit to get unbalanced and fall over while in use.

(14) Arrange to have the strut between the bellows and scan mechanism attached at the scan mechanism end instead of free as at present.

(15) Eliminate all loose pieces such as thumb screws, strut of (14), etc.

(16) Arrange to have the yoke and headphones fasten in the rear cover when packed.

(17) Improve packing arrangements for microphone and cable and headphone cable.

(18) Securely fasten headphone and microphone cables to equipment.

(19) Mark control knobs in English - do not mark units with name of manufacturer.

(20) Eliminate visible light leaks between lamp and condenser unit.

(21) Use front windows of plastic instead of glass.

(22) If possible, build front cover so that window projects inside of cover instead of outside.

(23) Attach handle to top of equipment.

(24) Improve clamps for holding front and rear covers to unit.

c. Plans for Extension of Phase II

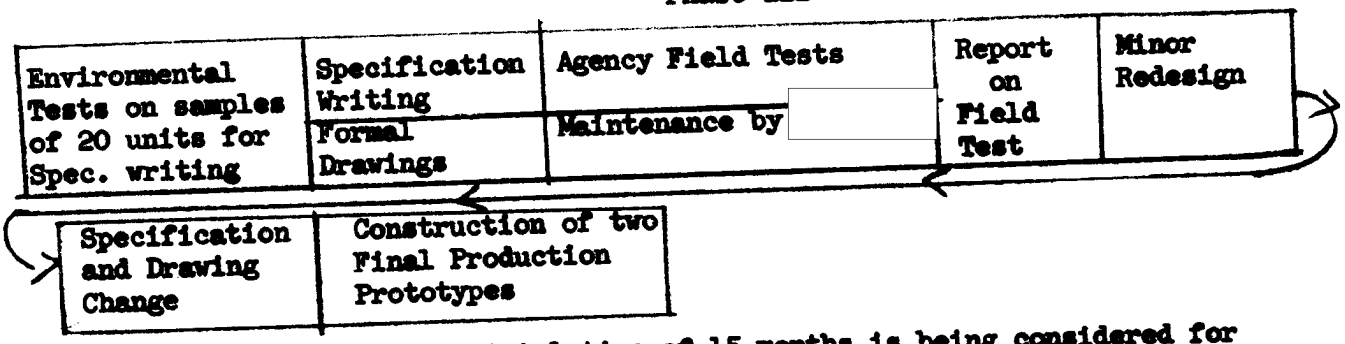
As a result of a suggestion of [redacted] it was decided that extra time for testing purposes should be included in the extension of Phase II. The schedule in Attachment I is the result. Because of [redacted] booking delays, use of present funds must cease May 15. At that time about $223,000 will have been spent and an additional $87,000 will be needed to complete the work. 25X1 25X1

[redacted] will have the request for extension of time to 31 August and replacement of funds in the amount of $87,000 in the mail by Friday, 25 February 1955. 25X1

d. Outline of Phase III

[redacted] was given a preliminary verbal outline of what is wanted in Phase III in order to clear up confusion about specifications and drawings in Phase II. The following block diagram shows the general outline of Phase III. A more detailed outline will be furnished Raytheon in writing with a request for a proposal. 25X1

Phase III



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A total time of 15 months is being considered for Phase III. Of this, perhaps 6 months will be spent in the low level of effort of the Agency Field Test [redacted] Maintenance section. 25X1

5. Actions:

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5. Actions:

a. APD will

(1) Furnish [redacted] with several line cord plug adapters for Continental and British type sockets. 25X1

(2) Determine whether [redacted] may or may not exploit battery charger portion of unit by selling to military. 25X1

(3) Write outline of Phase III and request for proposal.

(4) Check instruction books

b. [redacted] will 25X1

(1) Obtain Signal Corps specifications for portable electronic equipment such as ours.

(2) Furnish APD with complete data on the motor generator project.

(3) Request extension of time and money on Phase II.

(4) Complete 4 units by 15 March for delivery 23 March.

[redacted]

TSS/APD

Attachment I

Distribution:
Orig. - P-101B
1 - Chrono

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Attachment I